

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2001-203527

(43)Date of publication of application : 27.07.2001

(51)Int.Cl.

H01Q 3/26

H04B 7/08

H04B 7/10

H04B 1/707

(21)Application number : 2000-344528

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(22)Date of filing : 10.11.2000

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(30)Priority

Priority number : 1999 164552

Priority date : 10.11.1999

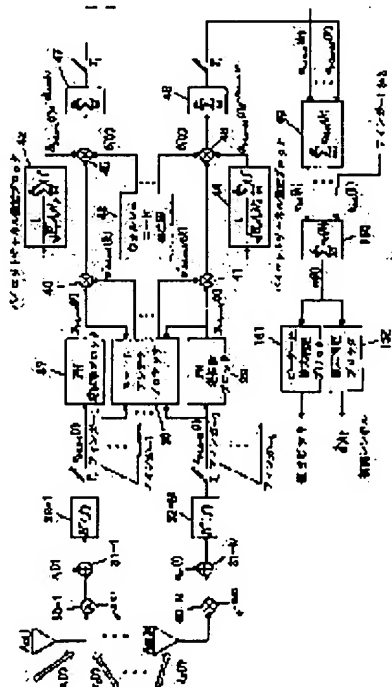
Priority country : US

## (54) SMART ANTENNA FOR IMT-2000 CODE DIVISION MULTIPLEX WIRELESS COMMUNICATION

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide a smart antenna with high performance at a low cost for a DC CDMA wireless communication system under an inhomogeneous strength fading environment and/or a group of interference users.

**SOLUTION:** A method adopted for a smart antenna system that generates a weight vector applied after pseudo noise(PN) inverse spread processing in place of a front end of a receiver for channel estimate and data symbol demodulation on the basis of maximum output power standard without a Lagrange multiplier, includes a step where an initial weight vector  $w(0)$  and an initial specific value  $\lambda(0)$  are set, a step where new post-PN processing data  $y(k)$  are received, and a step where a weight vector  $w(k)$  is updated by a snap shot index  $(k)$ .



The transmitter diversity combination with phase modulation and amplitude modulation using feedback information from the...

With respect to the combination method of transmitter diversity for wireless communication as well as making use of one-bit and two-bit representation methods to represent the channel information, we apply for the patents in the following categories: (1) the transmitter diversity technique of digital phase shift keying making use of one-bit feedback information to control the phase. (2) The transmitter diversity technique of digital phase shift keying making use of two-bit feedback information to control the phase and amplitude, respectively. (3) The method of making use of one bit to represent the feedback information from the receiver on wireless multi-path fading channel. (4) The method of making use of two bits to represent the feedback information from the receiver on wireless multi-path fading channel.